MARINE RECORD

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A NEW TWENTY-KNOT SERVICE.

If the new Canadian government awards the contract for the proposed fast trans-Atlantic mail service on the basis of the bids advertised for by the last government, the new fleet will be the best paid of any in the trade. Recent advices from Ottawa state that the new government have accepted the tender of the Messrs. H. & A. Allan, and that they will at once award the contract for four new steamships, costing a million dollars each and to be ready for service within 18 months. These ships will undoubtedly all be constructed in Great Britain, as they are to be available as auxiliary British cruisers also, and the new service cannot be inaugurated until the new ships are ready, for there are no other steamers afloat that meet the demands of speed and other requirements. On the abrogation of the old Inman Line contract for the transportation of the Canadian mails, the Allans, who are the present tenderers, secured it, but in late years the contract has been divided up among a number of lines, none of the ships of which, however, has an average steaming power of much more than 15 knots. The combined subsidies of the Canadian and British governments to the new line as offered will amount to about $1,125,000 per year. The distance to be accomplished from Halifax to Liverpool is about 560 miles shorter than from New York to Liverpool, so that the actual time of the ocean passage will be fully a day less than the time made by the fastest ships from New York. The new liners will, it is stated, call at Moville instead of Queenstown, however, and thus bid particularly for the Scotch and north of Ireland trade.

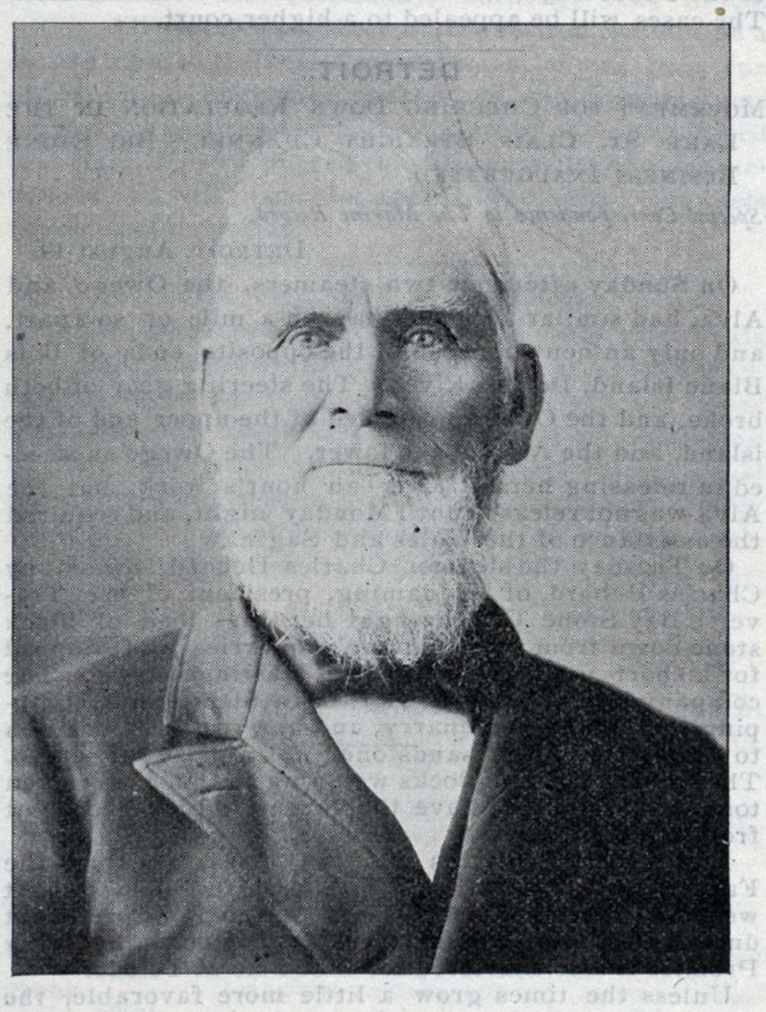
When this new service goes into operation it will undoubtedly hurt the competing lines to Liverpool, including even the Cunard and White Star services from New York, for the new ships will, of course, be the finest that can be constructed, and with the enormous subsidy offered, other competing advantages can be afforded The new competition will hardly affect the American Line to any appreciable extent, as they cater most extensively to the London and Continental traffic and have a monopoly of south of England business through their terminus being at Southampton. Besides this, the American Line now maintains the only service that gives an average of 20 knots from all its mail steamers; both the Cunard and the White Star Lines have only two ships each that can pretend to compete with the splendid and swift quartet of the American Co. It is little wonder, therefore, that the Cunard and White Star people are already "kicking" at the munificence of the British and Canadian governments in their subsidy award to the Allans. It is represented that the amount they receive from the British government as mail carriers now is only for weight and amounts to but about $130,000 per year, while the American Line mileage, if no voyages are missed, will amount to about $725,000 per year and the new Allan service will get, as has been stated, $1,125,000 per year in a lump sum, whether they accomplish the service perfectly in every detail or not. We are not aware whether the Cunard or White Star people tendered for the Canadian contract or not, but the long experience of the Allan Line in running to the not always desirable Canadian ports may have had something to do with their success in obtaining the contract.

Mr. Gustavo Niederlein, consul of Costa Rica, at No. 233 South Fourth street, Philadelphia, desires manufacturers to send him two sets of their illustrated catalogues, with detailed information about prices, terms of credits and discounts, manner of payment and custom of packing and shipping, and also freight rates. On the other hand, he announces himself willing to give special data on goods desired or products offered in Costa Rica, and will forward special inquiries to exporters and importers in Costa Rica to be properly answered, or to do anything else to bring the American manufacturer or importer into direct communication with the Costa Rica consumer or producer.

NOTICE TO MARINERS.

WIND SIGNAL DISPLAYS.

I am directed by the chief of weather bureau to inform you that a wind signal display station, displaying day and night signals, has been established at Stanley B. Smith's coal dock, five miles below Detroit, Mich. The day signals will be displayed from a staff on the water tank in the center of the dock, and the night signals from a staff 20 feet above the chutes of the south end. The lights will be electric, the white light of 32 candle-power and the red light of 64 candle-power. Notices of all storm warnings will be posted in the office of the coal dock at the north end of the chutes.



CAPT. WILLIAM BELL GUYLES.

This affects "Circular of Information Relating to the Display of Wind Signals on the Great Lakes," 1896.

NORMAN B. CONGER, Local Forecast Official.

WAVERLY SHOAL MARKED.

Notice is hereby given that a second-class can buoy painted black, was established August 12, 1896, on Waverly Shoal, Porte des Morts Passage, Wis. The buoy is in 20 feet of water and marks the northeast extremity of the small shoal (12 feet least depth) on which the steamer Waverly grounded in July, 1896, about 700 yards to the northward of Nine Foot Shoal buoy.

At the same time a spar buoy painted black was substituted at the same moorings for the black second-class nun buoy, formerly marking thesoutheast extremity of Nine Foot Shoal, Porte des Morts Passage, Wis.

By order of the Lighthouse Board:

J. H. DAYTON, Comdr. U. S. Navy,
Inspector Ninth Lighthouse District.

DEATH OF CAPT. W. B. GUYLES.

Capt. William Bell Guyles died last Thursday afternoon, August 13, at his home, No. 181 Franklin avenue, Cleveland, at the age of eighty-one years. He was one of the pioneers in the lake trade, and an adequate biography of him would form a condensed history of the commercial growth of the Great Lakes. He has watched with intense and unflagging interest the growth of the volume of freight, and the still more rapid increase in tonnage of vessels. He rarely missed a launch in even the most rigorous weather, and while at times he gave evidence of being quite feeble, he was in reality a rather active and sturdy man for his age.

Capt. Guyles was born at Ripley, Chautauqua county, N. Y., October 21, 1815, and was the son of Simeon and Hester Guyles, who were of Scotch descent. When he was thirteen years old his parents moved to Erie, after which he continued in school for three years. His parents were then unable to support him longer in school, and when 16 years old he began his lake-faring career. After serving three years before the mast he soon afterwards became master, which position he filled on various vessels for more than a score of years.

Capt. Guyles located in Ohio City (now the "West Side" of Cleveland), soon after that village received its charter, and built a home on Abbey street in 1842. Just about this time he married Miss Ruby Burnes, of Oswego. They had no children of their own, but adopted and reared to womanhood three neices and one other girl. In 1885 Mrs. Guyles died, and after seven years of widowhood he was again married on May 23, 1892, to Miss Emma E. Fenn, of Northport, Mich., who survives him. He was an active member of St. John's Episcopal Church, and was widely known in benevolent work.

After he quit sailing, Capt. Guyles retained his interests in vessel property, and was connected with other business interests. For twenty years, and up to the time of his death he was a member of the financial committee of the People's Savings and Loan Association. For twenty years after he decided to remain ashore he was in the employ of the Commercial Mutual and Merchants' Insurance Co. as inspector.

The immediate cause of Capt. Guyles death was a fall down stairs, which occurred on the Monday night previous to his death. The fall is thought to have resulted from a slight paralytic stroke. The funeral services were held Sunday at the family residence.

During July Scotch shipbuilders launched 20 vessels, of 25,585 tons, as compared with 24 vessels, of 28,350 tons, in June, and 21 vessels, of 19,137 tons, in July, 1895. For the seven months of the year 226,877 tons have been launched, against 210,967 for the corresponding period last year. During July English builders launched 27 steamers and 7 barges. The slight falling off is due to the fact that there are several holidays during July, which makes the number of working days smaller than in June.

NEWLY ENROLLED TONNAGE.

Following is a list of lake vessels to which official numbers and signal letters have been assigned by the Commissioner of Navigation, for the week ending August 8:

Official No.	Rig.	Name.	TONNAGE. Gross.	Net.	Where Built	Home Port
161,088	St. p	Kanawha	429.77	429 77	Ironton, O.	Wheeling
141,442	St. p.	Lerry	142.26	142.26	Levanna, O.	Wheeling
77,227	Schr.	J. M. Harvey	22.90	17.34	Chicago	Chicago
107,257	Bge.	Alex Holley	2,721.34	2,553.99	Superior	Duluth

NEWS AROUND THE LAKES.

CHICAGO.

THE STEAM YACHT BONITA GOES TO THE HEAD OF LAKE MICHIGAN—SCHOONER YACHT HAWTHORNE RAISED—A FEW ACCIDENTS.

OFFICE OF THE MARINE RECORD,
CHICAGO, August 19.

Gen. Joseph T. Torrence has purchased the steam yacht Bonita of Mark Hopkins, of St. Clair, Mich., and is bringing the boat to Chicago. Gen. Torrence has been contemplating the purchase of a steam yacht for some time, and has looked at some of the best boats on the lakes, as well as in the East, but none of them exactly suited him until while in Detroit yesterday, he boarded Mr. Hopkins' beautiful yacht Bonita. After a thorough inspection the yacht got under way and took the party up to St. Clair. Gen. Torrence was so delighted at the general appearance and speed shown by Bonita that he decided to buy her. He soon came to terms with Col. Hopkins and the bill of sale was made out yesterday. The price paid for the Bonita was in the neighborhood of $30,000. The Bonita is considered one of the finest steam yachts on the lakes, and will certainly be a great acquisition to the Chicago fleet. She is 125 feet long over all, by 16½ feet beam and about 6½ feet hold. She measures 40 tons and has a triple-expansion engine and is allowed 200 pounds of steam.

The steamer Minnie B, Capt. L. B. Coates, is making daily trips between Chicago and Benton Harbor, leaving the Northern Michigan Line's dock at 10 a. m. The Benton Harbor & Eastern Railroad Co. have chartered her for four months from July 15 for the Benton Harbor fruit trade, also for passengers and freight.

The Dunham Towing and Wrecking Co. raised the schooner yacht Hawthorne on Saturday.

The steamer Edward Buckley, of Manistee, arrived here Sunday morning with lumber from Sault Ste. Marie. Capt. Charles Gnewuch reports that on Friday morning the 14th inst., at 5 a. m., he saw the schooner Phineas S. Marsh on St. Martin's Reef, Lake Huron, and lowered his boat and went to the schooner. He got a line from her and pulled her off and towed her clear of the reef; the schooner then proceeded on her way to to Lake Superior. She did not appear to have received much damage. The schooner went on the reef about 2 o'clock Friday morning and her boat had been sent to Detour to obtain assistance. The schooner was on the east end of the reef in an exposed position. The reef is very dangerous, as it is composed of boulders of all sizes. The Marsh is owned by Capt. J. Doville, of Cleveland.

Grain freights are ruling steady on the basis of 1¼c on corn to Buffalo.

Carr & Blair chartered the steamer John F. Eddy for corn to Port Huron at 1⅛c, steamer F. L. Vance for oats to Black Rock at 1¼c, schooner Lake Forest for oats to Sarnia at 1c, steamer Victory for 168,892 bushels corn to Buffalo at 1¼c, steamer Republic for corn to Buffalo at 1¼c, steamer Marina for flaxseed to Buffalo at 1¼c, schooner Malta for 132,820 bushels corn to Buffalo at 1¼c, steamer Mariska for corn to Buffalo at 1¼c.

J. A. Calbick & Co. chartered the steamer White & Friant and consort Lizzie Law for corn to Midland at 1⅛c, the steamer Prentice and consort Halsted for corn to Port Huron at 1⅛c, the Toltec and Miztec for corn to Ogdensburg at 2⅞c.

Capt. John Prindiville chartered the steamer Inter-Ocean for corn to Kingston at 2¾c, barge Winslow, clipped oats to Buffalo at 1⅛c, steamer Norwalk, wheat to Kingston, 3c, Niko and Churchill for corn to Kingston at 2⅞c, schooner Maxwell corn to Goderich at 1¼c.

Capt. Adam Abrahamson, master and owner of the wrecked schooner Emeline, arrived here Friday morning from Bailey's Harbor. He reports that he left Charlevoix on August 6, with his schooner laden with bark for Kenosha. All went well until August 8, at 10 a. m., when they were about 20 miles southeast of Bailey's Harbor. Here the schooner was struck by a heavy squall from the westward, which capsized her. The captain and crew took to the yawl and made for Bailey's Harbor, arriving there at 5 p. m., and were taken charge of by Capt. Peter Olsen, of the life-saving station, and provided with dry clothing and excellent food and lodging. Capt. Abrahamson telephoned to Sturgeon Bay for a tug to come to Bailey's Harbor. The tug Smith arrived about 8 p. m. and started to find the Emeline at 3 a. m. on the 9th, accompanied by Capt. Olsen and his life-saving crew in their lifeboat. They found the schooner and she was towed into Bailey's Harbor about 9 p. m. the same day. Capt. Abrahamson wishes to publicly express his gratitude and thanks to the captain and crew of the life-saving station at Bailey's Harbor for their kind care and assistance rendered to him and his crew, who were well provided for until they left Bailey's Harbor on Wednesday, the 12th inst., on the steamer City of Ludington for Chicago. Capt. Abrahamson purchased the Emeline this spring for $1,500, putting all the money he had in her, which has all gone with the schooner, which is lying capsized at Bailey's Harbor. The Captain has not the means to do anything to recover his boat.

The barge Agnes L. Potter, Captain Samuel Johnson, which arrived here Monday morning from Lake Superior in tow of the steamer Charles Reitz, had her flag at half mast on her arrival in the harbor. Charles Bernetson, aged twenty-three years, single, a native of Sweden, had been lost overboard off the barge about 15 miles east of Frankfort, Mich., on Sunday morning at 2:30 o'clock. Peter Whitlam, mate of the Potter, states that he was below in bed and heard the captain's son, who was at the wheel, shouting that there was a man overboard. He immediately rushed on deck and heard Bernetson cry out for help, and he threw some of the lumber from the deck load overboard and that was all that was done to rescue the drowning sailor boy. Vesselmen here are indignant at the captain of the barge for using no further endeavor to rescue poor Bernetson, who was an excellent swimmer and as good a lad as ever sailed. They say the captain should have let go the tow line and lowered a boat, and used every endeavor to find and rescue the poor fellow, instead of going ahead and leaving him to perish.

WILLIAMS.

DULUTH.

THE DULUTH-SUPERIOR BRIDGE WILL BE READY FOR USE BY NEXT SPRING—THE 'LONGSHOREMEN'S CASES.

Special Correspondence to The Marine Record.

DULUTH, August 18.

Supt. Gray, who has charge of the work on the new bridge between Rice's and Connor's Points, has returned from the East and says that next spring will see the completion of the bridge. Everything will be in readiness to go ahead with the superstructure by the time winter sets in. A movement is said to be on foot among several of the local railroads to unite in building a track to the bridge, which they will use in common in their traffic between the two cities.

The striking 'longshoremen brought suit last week against contractor Welsh to recover 15 days' pay which had been withheld from them under agreement made and signed by them to forfeit this pay in case they quit work without due notice. Mr. Welsh brought a counter-claim for damages by reason of the sudden quitting of work by the men. The cases were tried before Justice of the Peace Seguin, who decided in favor of the men. The cases will be appealed to a higher court.

DETROIT.

MOVEMENT FOR CHECKING DOWN REGULATION IN THE LAKE ST. CLAIR STRAIGHT CHANNEL—BIG STONE BUSINESS INAUGURATED.

Special Correspondence to The Marine Record.

DETROIT, August 19.

On Sunday afternoon two steamers, the Owego and Alva, had similar accidents happen a mile or so apart, and only an hour between at the opposite ends of Bois Blanc Island, Detroit River. The steering gear of both broke, and the Owego grounded at the upper end of the island, and the Alva at the lower. The Owego succeeded in releasing herself after an hour's work, but the Alva was not released until Monday night, and required the assistance of the Wales and Saginaw.

On Tuesday the steamer Charles Hebard, owned by Charles Hebard, of Pequaming, president of the Traverse Bay Stone Co., brought her first load of block stone down from the company's quarries and stopped for a short time at the foot of Hastings street. The company has spent about $150,000 in fitting and equipping their docks and quarry, and now are in a position to supply the finest sandstone, in any size, to order. The Hebard carried blocks weighing as much as eleven tons, and claimed to have the largest pieces ever sent from Lake Superior.

Edward Horn has his tug, the Jones, assisting the Favorite at work on the William Chisholm, and next week has chartered her to Harper's Weekly as pressboat during the international races at Toledo. The ferry Promise is also chartered for that time at Toledo.

Unless the times grow a little more favorable, the Adams fleet will lay up after making one more trip. The owners say they only kept them in commission during the hot weather owing to the ill effect of such weather on a boat lying at a wharf.

The Frank E. Kirby is now beginning to bring up fruit from the islands and south shore in small quantities, and her heavy fruit season will open in two or three weeks.

The Canadian steamer Imperial has had a very successful season thus far, and from this time on it is sure to be better, as there is more freight to carry. Pelee Island is going to prove no mean feeder for a fair steamer running there. The people ship a good deal of grain, one vessel a couple of years ago carrying away twenty odd thousand bushels for sale; and they also ship large quantities of peaches and grapes, as well as a good deal of native wines. Should the oil wells there prove a success, a large freight trade would probably result.

Some vessel men here think vessels should check down in running the straight channel at Grosse Pointe. They say that especially at night when distances cannot always be told certainly, some caution of this kind should be used. The Oceanica-Chisholm collision is the first real accident to occur in the new straight channel. The vessels lie in such position as to not to interfere with navigation with ordinary caution.

Until two years ago, David Whitney did not insure his steamers, so THE RECORD was informed by a local vessel owner, who was commenting on the breaking of the Merida's engines. "Now, that job cost some $40,000, and it would have taken Mr. Whitney two years' work with good luck to have made that up without insurance, but as it is he is paid, and the boat only loses her time.

H. McC.

BUFFALO.

WHY CUSTOM HOUSE REPORTS OF COAL CLEARANCES ARE LARGER THAN THE REAL SHIPMENTS—FUEL ALL RIGHT.

Special Correspondence to The Marine Record.

BUFFALO, August 19.

Still the grain pours in, the amount for the week, including flour, being 5,700,000 bushels. Lumber went down to 6,000,000 feet, but the report of coal slides up the scale to 81,000 tons. It is safe to say "the report," for there is a suspicion that the captains are reckoning on full cargoes and carrying what they can get. There is no indication that the coal shippers are going to take tonnage at all briskly for some time yet, but the coal will have to go, if politics is stopping the ore furnaces. Next month may develop something.

The Union Dry-dock Co. having got the big liner Ramapo into the water, is getting ready to build the oil boat that was contracted for last winter. As it is not to be delivered till next season there is no hurry about the work. Some of the papers are writing it up as a new contract. Preparations are in progress to lay the keel in a few days. The work can then be carried on at leisure, at least till something else turns up. The Ramapo is to come out about September 1.

The Lackawanna Coal Co. is just now sending the great part of its water coal to Toledo. There is no help for it, but the slackness of the traffic keeps the Erie basin full of small schooners waiting for the privilege of carrying an occasional cargo at 20 cents a ton. The schooner Typo has just got away after waiting quite a long time for her cargo. The captain is bewailing the time he left the job he had in the schooner Grampian and bought the Typo. He says that he has not been able to pay his expenses so far this season.

It looks as though Charlie Strasmer, of the Anchor Line, is going to capture the mantle of expert vessel work that dropped away when Capt. John Rice died this spring. There is need of about so many good judges of vessels in a port like this, and the death of Capt. Rice left a bad vacancy. Mr. Strasmer has already been on a few surveys and is said to be a good judge of a boat. He lately assisted in the survey of the steamer St. Louis, which was smashed the other day by the steamer G. F. Williams.

It seems too bad that a report should go out from here that the coal sold to the boats for fuel is not satisfactory. So far as I can learn the statement is not true in any sense. Capt. Brown, president of the Lake Carriers' Association, called my attention to the report and declared it without foundation. The coal sold on the fuel docks is the same as it has been for years, and Capt. Brown says it is as good and sells for about the same as that sold at other ports. His reputation for fighting abuses at home, which he mentioned when he took this matter up, ought to make his declaration of the best.

A visit to the Welland finds that passage doing decidedly more business than it did last season. The movement of coal is not as great as it might be, but the heavy movement of grain, which is the best item in the Welland list, helps the canal out for all other shortcomings. I saw the new steamer Aragon there last Saturday, which had just come back from her first trip through the Welland. She arrived at Port Colborne with about 84,000 bushels of wheat, and on lightering up to the regulation 13 feet 9 inches, had still 75,000 bushels, which she took through. The Katahdin held the Welland record till now on a coal cargo she brought up this spring.

It appears that the big gale of Sunday night, last week, was something like a cyclone. It struck Cleveland much more directly than it did Buffalo, but it could not have been in full force at either port, as is shown along the north shore of Lake Erie. For several miles above Port Maitland the trees were twisted square off, some of them more than a foot through and they are mostly oak at that. Hundreds of trees are broken down, so that the escape of the shipping on Lake Erie appears to have been very lucky.

There was not a little complaining on the part of the local excursion boats last Saturday because the big City of Buffalo went out into the lake with an excursion. It was thought to be unfair to take the business away from the boats that had worked it up, but the result proved that no one had any idea of the number of people to be carried that day, unless it happened to be the managers of the City of Buffalo, for she took out about 2,200 people and the other boats all took what they could carry and then left a large number behind. It was the biggest excursion day here for many a day.

Accidents have dropped off again and there are no vessels yet in dry-dock here but Samoa and consort Celtic and the St. Louis. In the big lines the honors are easy between the Lehigh and the Western Transit. The Lehigh now has a second steamer on lake bottom

before the first, the Cayuga, is floated. The second accident to the Union Transit steamer Stevens will not cost more than $200, and it is likely that the owners of the Panther will settle it up without a lawsuit.

Capt. Green has sent the steamer Lewiston out again, after keeping her here for some time. She was not idle, though. The Buffalo Forge Co. was putting in a new-style blowing apparatus to add to the effectiveness of her furnaces by returning a large part of the waste heat to the fires.

Six vessels canceled their insurance this week and laid up through their agents, though they are not here. They are the Sawyer and Santa Maria tows.

CHAMBERLIN.

WRECKS AND WRECKING.

At 10:40 Friday night last the Oceanica collided with and sunk the William Chisholm at the lower end of the Grosse Pointe straight channel in about 16 or 17 feet of water. Both boats are believed to have been backing when they collided, and it is thought that the reversal of the screws threw them nearer together and caused them to collide. The Oceanica ran into the Chisholm about 5 feet, cutting her starboard side and opening into the engine room, a space of 10 feet long, up to her rail and below her water line; how far is not known. She sank almost immediately. Her chief engineer, Silas H. Hunter, was in the engine room at the time, and was slightly burned by the escaping steam caused by the breaking of the steam pipes. His assistant was asleep and was carried inward some three feet and his leg and arm bruised but not broken. The Chisholm lies at the south end nearly of the straight cut on its eastern bank. Her decks are just above water, and her cabin and forward deck are all dry. The Favorite is at work on her with a diver, and the tug Arthur Jones is assisting. John C. Shaw and the firm of Gray & Gray have been retained as her proctors. Her crew was cautioned to say nothing, and no details of how the accident happened were obtainable. This was also true of the Oceanica's crew.

The Oceanica, after the the collision, it is said, turned round and tried to make for Detroit, but from her position it would seem that she tried to make the west shore of the lake. She sank a few minutes after the accident, her stern being mostly carried away. She lies in deeper water than the Chisholm, and has about six or seven feet over the waist. Her cabin trunk roof is just above water, and her wheel house and texas are also clear. It is believed she will be abandoned to the foreign underwriters by whom she is insured and that she will be raised on a bid. If the work progresses favorably the Chisholm may be raised late this week after being patched. She will go to dry-dock at Cleveland.

Capt. John S. Quinn, the diver who made a cursory examination of the Chisholm and Oceanica, sunk in collision off Windmill Point, says that the Oceanica's bow is all knocked away for a distance of four feet abaft the stem; that her deck is seven under water amidships, but that she is not twisted, as was the case with the Britannic and others which have sunk in this river.

The steamer Fannie C. Hart wrecked her engines at the Straits, Saturday, by the dropping of a cross-head key. Three columns of the frame and both cylinders were completely demolished. She will get a new engine, costing $5,000.

The wrecking expedition to the steamer Norman will, on Sunday next, make a test trip for the purpose of trying the diving apparatus invented by Mr. C. D. Myers, which has several times been referred to in these columns. Mr. Myers is a very clever man and a good mechanical engineer, and his friends are sanguine of of the success of his experiment.

NEW HYDROGRAPHIC CHART—GEORGIAN BAY.

A long-felt want of Upper Georgian Bay navigators has been met in the issuing by the Hydrographic Office, of a chart, in large detail, of this bay from French River to Little Current and Cabot Head. This includes the greater portion of the shores of Grand Manitoulin and the neighboring islands, and the new ranges, and the results of all late soundings are carefully given. A scale of statute miles, extending the entire length of the chart from top to bottom, greatly facilitates calculations for those accustomed to compute distances by this standard of measurement. The price is $1.25. Furnished promptly upon application at THE MARINE RECORD offices, Fourth Floor, Western Reserve Bldg., Cleveland.

NOTES FOR NAVIGATORS.

At the second black stake at the entrance to Maumee Bay straight channel there is an obstruction of some kind on the bottom which may prove dangerous. There is also a snag sticking out of the water near the crib in the bay.

The position of the red gas buoy on the Middle Ground Shoal at the east end of South Traverse Channel, St. Lawrence River, is wrongly located on Hydrographic Office Chart No. 1491, published in April, 1895. The buoy is moored on the tail of the shoal in five fathoms and may be located by the following sextant angles: Stone Pillar lighthouse to St. Roch church spire, 43° 06′; St. Roch church spire to Orignaux Point lighthouse, 100° 10′. The buoy must be left to starboard when passing up the river.

The light at Cap a' l'Aigle, north shore of St. Lawrence River, is wrongly located in H. O. Chart No. 1491. The mast from which the light is shown stands out in the river from the point on the chart at the east end of Cap a' l'Aigle, instead of the west end, as shown.

The wreck of the schooner Little Wissahickon has been reported by numerous steamer captains as lying from 26.7 (33) to 30.4 (35) miles approximately E. ¾ N. (N. 81° E.) from Point Pelee. The topmasts are 5 or 6 feet out of water. As the schooner lies very near the track between Point Pelee and Erie, mariners are cautioned to avoid fouling their propellers with the wire rigging of the schooner.

CAPT. MACK SERIOUSLY ILL.

Capt. W. S. Mack, of Lakewood suburb, Cleveland, suffered a severe stroke of apoplexy Wednesday morning at the home of his physician, whom he had gone to consult, as he was not feeling well. The fact that medical attendance was immediately at hand did much for him, and probably saved his life. He was able to be taken to his home later in the day, and is reported as resting easier this (Thursday) morning. Any illness which will place Capt. Mack on the retired list will be a severe blow to the vessel interests, as he has been one of the most energetic workers in all organizations formed for their betterment. It is to be earnestly hoped that Capt. Mack's rugged constitution will come out victorious and will place him again in the active channels within a short period.

THE FREIGHT SITUATION.

Owners who have been compelled to place their boats in ordinary because of lack of cargoes, are now notifying the insurance companies that they will tie up for thirty days, by which time they hope to see something accomplished in the way of grain transportation. Coal rates hold about where they were a week ago, simply because they cannot well go lower. Ore rates remain nominally stationary, but no business is being transacted.

VISIBLE SUPPLY OF GRAIN.

As compiled for THE MARINE RECORD by George F. Stone, Secretary Chicago Board of Trade, August 15, 1896:

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY Bushels
Albany	.....	15,000	25,000	5,000	.....
Baltimore	1,391,000	734,000	474,000	43,000	.....
Boston	1,106,000	359,000	301,000	.....	.....
Buffalo	1,451,000	405,000	459,000	127,000	186,000
" afloat	.....	.....	.....	.....	.....
Chicago	13,249,000	6,802,000	1,389,000	334,000	11,000
" afloat	.....	.....	.....	.....	.....
Cincinnati	10,000	2,000	12,000	6,000	5,000
Detroit	294,000	17,000	10,000	31,000	.....
" afloat	.....	.....	.....	.....	.....
Duluth and Superior	5,641,000	25,000	222,000	250,000	89,000
" " afloat	.....	.....	.....	.....	.....
Indianapolis	436,000	106,000	.....	.....	.....
Kansas City	893,000	23,000	7,600	5,000	.....
Milwaukee	163,000	1,000	176,000	345,000	26,000
" afloat	.....	.....	.....	.....	.....
Minneapolis	13,212,000	11,000	13,000	55,000	11,000
Montreal	268,000	43,000	287,000	6,000	36,000
New York	1,756,000	450,000	1,367,000	46,000	47,000
" afloat	46,000	17,000	39,000	33,000	.....
Oswego	63,000	55,000	.....	.....	43,000
Peoria	152,000	18,000	304,000	13,000	3,000
Philadelphia	559,000	163,000	91,000	.....	.....
St. Louis	2,072,000	981,000	76,000	9,000	.....
" afloat	.....	111,000	.....	.....	.....
Toledo	657,000	93,000	93,000	84,000	.....
" afloat	.....	.....	.....	.....	.....
Toronto	128,000	.....	70,000	.....	22,000
On Canal	536,000	274,000	891,000	139,000	97,000
On Lakes	1,779,000	2,722,000	849,000	65,000	36,000
On Mississippi	20,000	323,000	7,000	.....	.....
Grand Total	45,876,000	13,750,000	7,279,000	1,596,000	612,000
Corresponding date 1895	36,892,000	4,293,000	3,631,000	304,000	31,000

FLOTSAM AND JETSAM.

Capt. Edward Hewitt is now master of the steamer Superior.

Capt. R. C. Smith, of Chicago, has been appointed master of the schooner Lizzie A. Law.

The steamer Bessemer brought down 4,100 tons of ore from Ashland to Lake Erie on her last trip.

The new Minnesota steamer Maricopa left Chicago late Thursday night with 191,700 bushels of corn.

The river steamer Unique is likely to be sold, it is said, to an agent of the Cuban revolutionists, who intends to cut down her cabins and convert her into a blockade runner.

Capt. I. Blair, who was very well known among the earlier Canadian vessel masters, died at Brampton, Ont., early this week, aged 81 years. Before coming to Canada he was a captain in the British army.

The protection at Taylor street bridge, Chicago, has been so altered by the removal of piles that boats as arge as the Centurion, Curry, and Merida can now get up the South Branch as far as Sixteenth street.

According to custom house reports, the Cuyahoga district received during July 1,121,988 tons of ore, divided as follows: Cleveland, 429,133 tons; Ashtabula, 423,952; Fairport, 180,242; Conneaut, 55,335; Lorain, 33,326. Coal shipments from the same points aggregated 340,655 tons.

John Stimpson, a marine reporter well known to every captain passing through the Straits, had a wonderful escape last Friday. In boarding the steamer Tioga his line was made fast too far aft, when the suction drew the boat under the wheel and it was churned into fragments in an instant. Stimpson escaped unharmed in a manner which passes comprehension.

The W. & M. Railroad has restored the rates which were in effect prior to June 1. On that day an agreement was entered into between the W. & M., which operates car ferry barges between Peshtigo and Chicago, and the all-rail lines, by which the former was to take a five cent differential for 45 days. The term has expired, and the lower rates are again in force. The rate on coal has been made $1.50 per ton from Chicago to the Twin Cities.

There have been some changes in the commands of the Leathem & Smith fleet. Capt. Henry Tufts has been appointed to the J. L. Hurd, vice Capt. Wm. Boyd, released; Capt. James Tufts succeeds Henry in the tug Leathem; Captain James Oakley follows Capt. James in the tug Nelson; Capt. Albert Anderson succeeds Capt. Oakley in the tug Mosher. Capt. Frank Fuller, mate on the Hurd is succeeded by Pilot John Peterson. Engineer Ashley Coffrin, who was second on the steambarge Mary Mills, is now handling the throttle on the tug Nelson, vice Chas. Ferris resigned.

The Saginaw Coal Co., Saginaw, Mich., whose officers are W. T. Chappell, president and treasurer; S. T. Crapo, vice-president, and S. G. Higgins, secretary, are well satisfied with the progress being made at their mine. The quality proves to be first-class, and the roof is excellent. There is very little water in the mine, and all indications point toward the success of the enterprise. It will take a few weeks to put up the necessary hoisting machinery and cut the entries preparatory for mining, but everything will be put in full running order as quickly as possible.

GAS BUOYS ON THE ST. LAWRENCE.

Five Pintsch gas buoys arrived at Ogdensburg last week, and have been put in position on the St. Lawrence River. They are a part of a series of eight Pintsch gas buoys provided for in a bill enacted during the last session of Congress. One is to be located in the harbor of Ogdensburg and the other seven along the American channel from Ogdensburg to Cape Vincent. The five were placed where they were most needed immediately after their arrival, and the other three will be placed as soon as they are available.

The Hydrographic Office has just issued a large, accurate and handsome chart of Cleveland's inner and outer harbor, and the adjacent portion of Lake Erie, containing the results of the very thorough survey made last season by the U. S. S. Michigan. The soundings are given up the Cuyahoga River as far as Jefferson street bridge, and up the old river bed to its head. The chart measures about 30 x 40 inches. Price $1.25, at MARINE RECORD offices, Fourth Floor, Western Reserve Bldg.

IN THE ENGINE ROOM.

PROPORTIONS AND EFFICIENCY OF PROPELLER WHEELS.

BY CAPT. H. C. PEARSONS.

(CONCLUDED.)

With regard to the ultimate efficiency of the screw, or rather of the total motive plant, it does not appear that Mr. Denton made any special computation to find it, other than by comparison with other results, probably for the same reason that the proper data were not at hand, for, to determine this element by the methods in current use, is a serious matter, involving as it does the consideration of so many factors—factors that are seldom available except in the drafting room, or better on the drafting floor—and this is doubtless the reason why so few engineers trouble themselves to know anything about it, notwithstanding its great importance in adapting wheel to engine.

But with the use of the new factor, as given in our table of the Proportions and Efficiency of Propeller Wheels, this is a very simple and elementary matter.

(A.) Experience and observation soon tell the engineer about what per cent of the total power is required to work the machinery light. The complement of this is, of course, delivered to the wheel.

(B.) The efficiency corresponding to the given ratio of pitch to diameter, as given in our table, shows the per cent of this complement that is available for useful work.

(C.) The complement of the slip shows what per cent of this appropriation, so to speak, for useful work, has been utilized.

Then, the continued product of these three factors is the net proficiency of the motive plant.

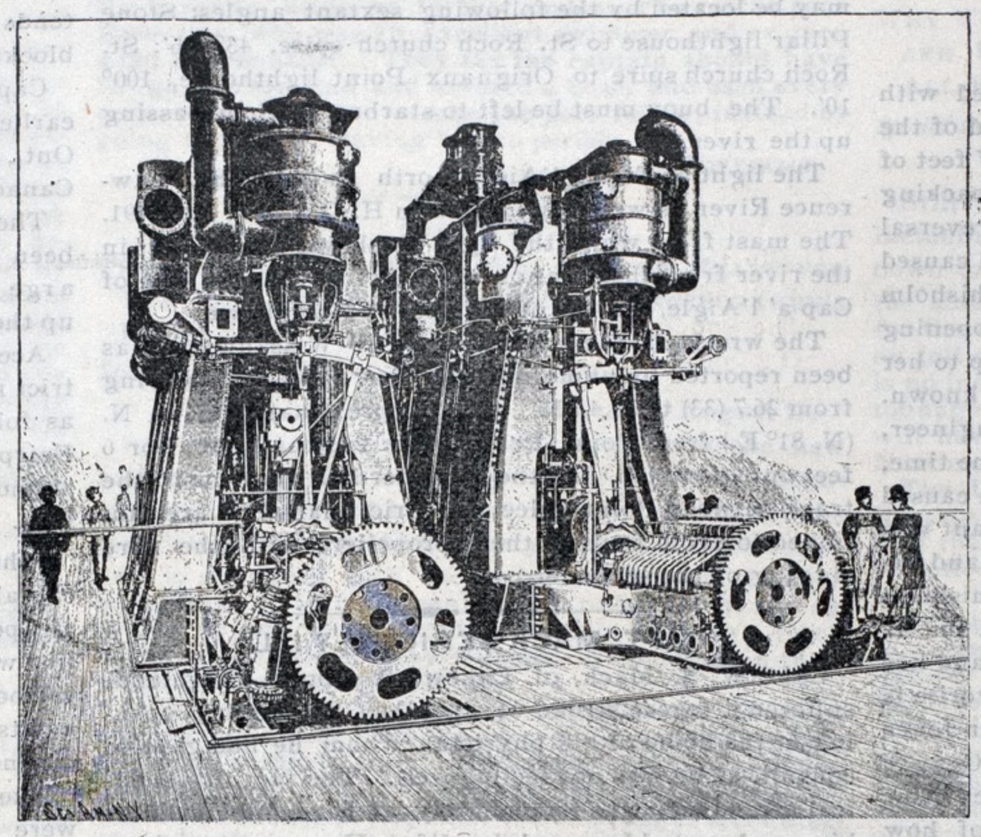
TABLE OF PITCH-ANGLES AND EFFICIENCY OF PROPELLER WHEELS.

Pitch in Diameter.	Pitch-angle at Center of Effort.	Per Cent of Useful Work.	Per Cent of Lost Work.
1.0	19.° 29′	89.0	11.0
1.1	21 16	86.8	13.2
1 2	23. 00	84.7	15.3
1.3	24. 42	82.5	17.5
1.4	26. 20	80 3	19.7
1.5	27. 57	78.0	22.0
1.6	29. 30	75.8	24.2
1.7	31. 01	73.5	26 5
1.8	32. 29	71.1	28.9
1 9	33. 54	68.9	31.1
2.0	35. 17	66.6	33.4

length of blade from center of wheel, are practically correct, the difference in this last example being only $\frac{6}{10}$ of 1% from that of the most elaborate computations.

Many and various are the devices that have been made to increase the hoarding power, and thereby the efficiency of the wheel. The method most in use at present is that of widening the blade in the middle of its length. This, upon a little investigation, will be found to be not only useless, but positively pernicious, the development of a sorry mistake.

By referring to our formula for finding the place of the center of effort, we see that the amount of work done by the blade, up to any point, varies as the fifth power of the distance of such point from the center of the wheel.



ENGINES OF THE ST. LOUIS.

Now suppose we have a 12-foot wheel with a pitch of 1½ diameters; required, the amount of useful work done by the inner half of the length of blade, as compared with that of the whole length.

The work of the whole blade is proportioned to the fifth power of 6, or $6^5 = 7776$.

The work of the inner half of the length is the fifth power of 3, or $3^5 = 243$. Then, dividing, we have 243 divided by 7776 = .0312; i. e., we find but a little more than 3 per cent of the total work of blade done with the inner half of the length.

Then multiplying this by the cos.^{2} of the pitch angle, which we find to be 64°, the angle being large near the hub, we have cos.^{2} 64° (= .192) × .0312 = .006. That is to say, the first half of length of blade gives .6 of 1 per cent of the total work of blade in useful work.

Here we see the futility of great blade area at the middle of the blade. It is idleness to cast nets into a pond that has no fish in it.

From the above consideration we see that about two-thirds of the length of blade should be shaped, not at all for propelling purposes, but merely to carry the outer end of blade in its work, and to be so shaped as to pass through the water with the least possible resistance. Of hundreds of wheels which I have taken out of the water, and seen taken out, I have never seen one that showed any signs of work in the middle of the length of blade; but on the contrary they would show the same fouling as the side of the vessel when it had been in service any considerable time. Only the tip of the blade for a few inches showed any signs of work, and yet we see elaborate calculations by learned professors of engineering to find the area of the blade, as if that were an important factor in the designing of propeller wheels.

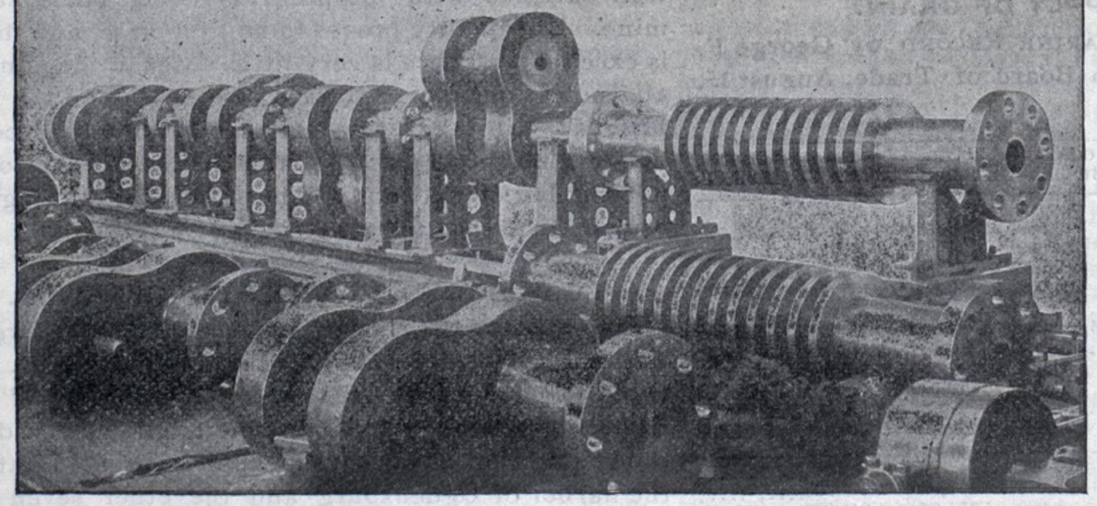
Blade area is practically of no account when compared with disc area, and the work of computing it correctly, involving, as it does for warped surfaces the use of the calculus, is merely so much laborious idleness.

Another device for increasing the efficiency of wheels is to increase the pitch-angle from the leading to the trailing edge of blade, thereby making the surface of the blade concave on its after face. The fundamental idea was to adapt the pitch of forward edge of blade to the net pitch of wheel, so that the work at forward edge should be nothing, while at the trailing edge it should be at a maximum, the pressure of blade upon the water thereby increasing gradually from forward to the trailing edge, the half sum or mean of the pitch at the two edges being considered the true pitch, and here was a mistake.

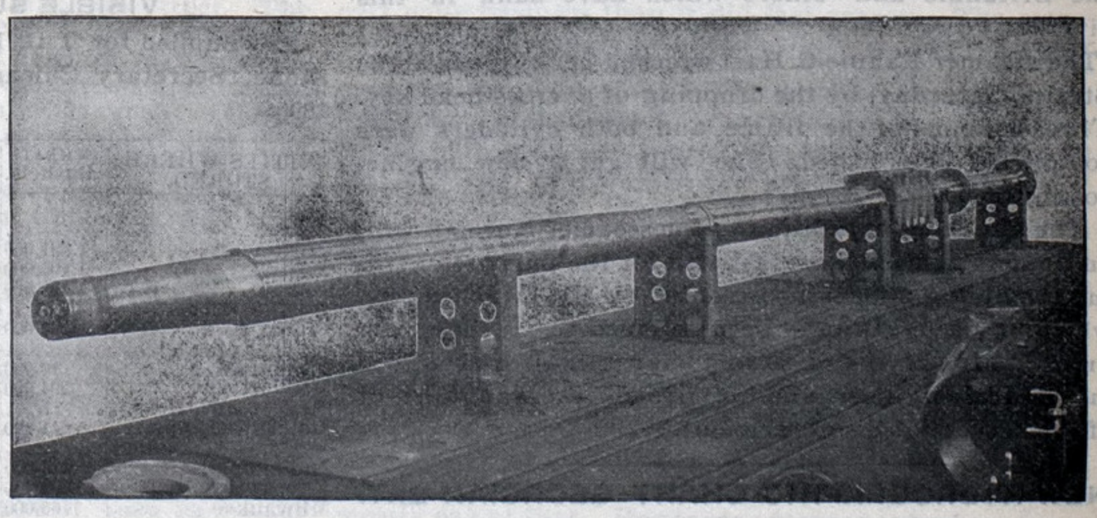
This practice produced some unlooked-for results, among which was what is known as "negative slip," i. e., the vessel appeared to run ahead of the screw in some cases, the pitch not being measured in the proper place, nor have engineers to this day learned how to measure the pitch of such a blade; so that seeming absurdity still remains a mystery.

The work of blade at forward edge being nothing and a maximum at after edge, the total work may be represented by a triangle. And as the center of area of a triangle is at two-thirds the distance from the apex towards the base, we must add two-thirds the difference of pitch of the two edges to the pitch of forward edge for the true pitch. Thus, suppose a blade has a pitch of 12 feet at leading edge, and 18 feet at the trailing edge, then 12 feet plus 4 feet, or two-thirds the difference is 16 feet for the true pitch, instead of 15 feet as at present measured. Measured in this manner, we shall never hear of "negative slip."

The objection to this form of blade is that the work is thrown mostly to the after part of the blade, where the pitch angle being greater, the per cent of useful work given out is less.



CRANK AND THRUST SHAFT OF STEAMER ST LOUIS.



PROPELLER SHAFT OF STEAMER ST. LOUIS.

To illustrate, with the Lowell, $86\frac{7}{10}$ % was delivered to wheel. Our table for ratio 1½ shows that of this 78% was appropriated. And the compliment of the slip, when working off 3,000 I. H. P., shows that $95\frac{2}{10}$ % of this appropriation was utilized. Then the continued products of these factors,

.817 × .78 × .952 = .607 = ultimate efficiency.

The mean efficiency of the best motive plant for steam vessels, in Rankin's day, was found by that engineer to be .613—thus again showing that our two factors, viz.: *one cylindric foot* per I. H. P. for engine to work upon, and the angle of pitch at 90 per cent of

AMERICAN LINERS ARE WORLD-BEATERS.

The American Line steamship St. Louis, after a complete overhauling at Southampton, left that port on Saturday, August 1, and landed her passengers in New York on Friday, August 7. This is what is known as the "short route," as compared with that taken by the Cunarders, which stop at Queenstown and Liverpool. The distance steamed was 3,055 knots and the time occupied was 6 days 2 hours and 34 minutes, the average speed being 20.86 knots per hour. The daily runs of the St. Louis were 477, 519, 530, 520, 510 and 499 knots.

The American Line steamship posseses but two-thirds the horse-power of the crack Cunarders Campania and Lucania, but the latter exceeds them in speed a very little more than one knot per hour. This extra knot, therefore, requires the exertion of 10,000 horse-power, and the consumption of an amount of fuel even greater in proportion than that of the horse-power developed. Had the horse-power of the American Liners been equal to that of the Cunarders, there would be no such fleet ships afloat.

When it was first announced that the Wm. Cramp & Sons' Ship and Engine Building Co. had undertaken to construct a pair of 11,000-ton ocean mail steamers and to equip them with engines of 11,000 horse-power, doubt was freely expressed, both at home and abroad, as to whether so large an undertaking could be successfully carried through. The tonnage was nearly four times, and the horse-power ten times as great as that of the largest steamers which this firm had already built for the Atlantic trade. The four ships built by the Cramps in 1872 for the American Steamship Co. of that date were of 3,126 tons register and 2,000 horse-power; and it was a great step from these ships, excellent as they were for their day, to the giant proportions of the latter vessels.

The quadruple-expansion engines of these ships are the largest of this type in the world, and present many features of novelty in their design and construction. It is no light task to which the engineer sets himself when he sits down at his draughting-board to make provision for the creation of 20,000 horse-power within the contracted limits of space which is provided for the engines and boilers of a modern Atlantic liner. Mr. Thom, consulting engineer of the American Line, who is responsible for the general design of these engines, has improved upon the common practice in large marine engines by using a much higher pressure—200 pounds to the square inch—by adopting quadruple in place of triple-expansion engines, and by transmitting the 10,000 horse-power of each engine to the shafting by means of four instead of the usual three separate cranks.

These features in the engines of the St. Paul and St. Louis are directly in the line of development which marine machinery has been following since the earliest days; but they mark a long step in advance of anything yet before attempted. The expansion of steam of the high initial tension of 200 pounds in six cylinders reduces the range of pressure in any one cylinder to a minimum, and thus obviates that most fruitful source of loss known as cylinder condensation. The distribution of the power among four cranks reduces the pressure upon the bearings and keeps down the size of the low-pressure cylinders. Of course these advantages are in a measure offset by the fact that the number of surfaces in frictional contact, such as valves, valve-gear, piston rings, etc., are multiplied, and the internal friction of the engine is thus theoretically increased; but the excellent workings of these engines, which have now been in service 12 months, indicates that there is no difficulty experienced in actual practice.

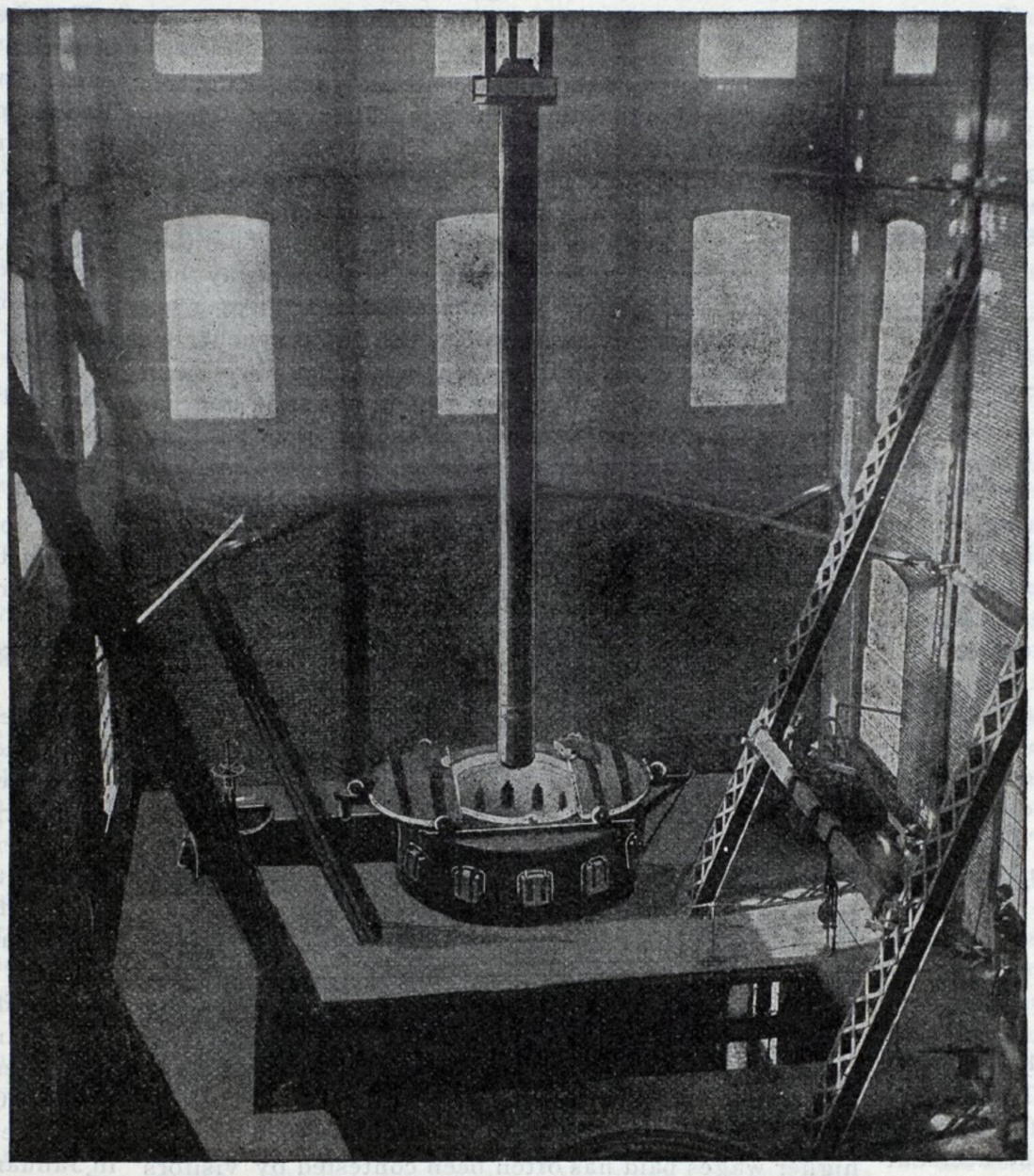
From our engraving, which shows the engines in the erecting shop after their completion, it will be seen that they are in duplicate, each set transmitting 10,000 horse-power to its own screw. The view is taken from the rear or thrust-block end, the cylinder over the first crank being the second intermediate cylinder of 77 inches diameter. The view of the engine from the forward end gives a greater impression of height, as the pair of low-pressure cylinders are surmounted by a pair of high-pressure cylinders, one of which is seen in the engraving, in the background, on the starboard engine.

The distribution of the six cylinders is as follows: On the first crank is a 77-inch low-pressure cylinder, surmounted by a 28½-inch high-pressure cylinder; on the second crank are low and high pressure, duplicates of the first; on the third crank is a first intermediate, 55 inches in diameter; on the fourth crank is a second intermediate, 77 inches in diameter. The expansion is as follows: Steam at 200 pounds is admitted to the two 28½-inch cylinders, from which it passes to the 55-inch intermediate, thence to the 77-inch intermediate, and finally to the two 77-inch low-pressure cylinders. All the cylinders have a 60-inch stroke.

The condensers have ¾-inch brass tubes, and are 7 feet 2 inches in diameter, providing a total surface of 22,000 square feet. The air pumps and circulating pumps are of the Worthington type, the same firm providing the feed heater and feed pumps. The condensers and pumps are not connected to the main engines, as in the Paris and New York, the foreign-built ships of the line, but are located separately in the wings of the ship. Balanced piston valves and Cramps' metallic packing are used. The latter consists of cast-iron rings compressed by a coil spring. The starting and reversing are effected by means of a separate engine.

There are ten boilers in all, six-double-ended and four single-ended. They are all 15 feet 7½ inches in diameter and are respectively 20 feet and 10 inches long, the plating being $\frac{9}{16}$ inches thick. They are fitted with Fox's corrugated flues and 2¾-inch tubes. An interesting feature is the fitting of the tubes with "retarders," which cause the gases to follow a spiral path in the tubes and so remain longer in contact with their surface. The total grate area and heating surface for all the boilers are respectively 1.144 and 40,300 square feet. They are worked under the Howden hot draft system, which, in addition to the economy that it secures, is a positive blessing to the men in the stokehold, which can be left open. This may be considered as a great advance upon the closed stokehold system of forced draft, which, as its name implies, involves the closing up of all openings between the hold and the outside air, the interior of the stokehold being under a a constant pressure of air.

It may not be out of place to once again give prominence to the claim that in addition to the superiority of their engines, much of this high speed may be attributed to their fine propeller shafts, which are hollow steel forged. The superiority of these over wrought iron lies in the lighter weight, and in the great increase in tensile strength and elastic limit, which are very important in a long shaft, especially in heavy weather. The illustrations here given show one of the four propeller shafts forged for these steamers by the Bethlehem Iron Co., and also one each of the crank and thrust shafts for these steamers. The propeller shaft is 53 feet 5 inches in length, with an outside diameter of 21 inches, and having a 6-inch hole running through it, leaving a thickness, for forging, of only 7½ inches. In the crank shafts the parts are all so carefully made and finished that they are easily interchangeable, and each of these steamships carries extra parts, thus being able, in case of breakage at sea, to make complete repairs in the course of a few hours. The crank-pins are 22 inches in diameter, with a 10-inch hole through them. The fourth illustration shows the process of tempering, which plays such an important part in enabling the shafts to resist the stress upon them. The view shows the shaft being drawn from the furnace and about to be plunged into the oil vat in the foreground. While the forging is in the oil it is necessary to spray the vat and oil constantly with ice-water to prevent fire breaking out.



OIL TEMPERING A STEEL SHAFTING.

CONCEALING CIRCULATION.

BY JOEL BENTON.

If there is anything in the world that would seem to be an obvious, unmitigated mistake on the part of a newspaper publisher, is to make his journal circulation an unknown quantity. The one who says it is 60,000 when it is only 16,000, exhibits a somewhat unethical audacity; but the one who says nothing, and persists in darting away from all reasonable inquiries, after the manner of the cuttle-fish, is doing, somewhat less brilliantly, pretty nearly the same thing. He is trying in a negative way to deceive his patrons and the public.

No man offers to sell his farm without telling the number of acres it contains, or to sell his vessel without naming its size and tonnage; if he did, he would never conclude a bargain, although in these instances an intended purchaser's guess in the matter might easily approximate the truth. What is it then that leads owner of a paper to suppose that he can take it out of the the category of things requiring a complete description? To the subscriber, of course, it makes no difference whether ten people or ten thousand read the paper he chooses to take; but to the advertiser it makes a great deal of difference.

No little help in drawing advertisements comes also from cleanness and beauty of typography. An artistically-printed paper, on a sheet of good material, is a most forceful advertisement. It will be more thoroughly read and talked about by having this high distinction. To attain unto it will make another proof that mere circulation is not all; and for pretended circulation there is ever in store some final and not far-off collapse.—Art in Advertising.

We are just in receipt of first copies of a new Hydrographic Office chart of the St. Mary's River, covering the distance between Shifting Point, at the head of Little Mud Lake, and the Turning Buoy, in Mud Lake proper, with a part of the Winter Point Range. The price of this chart is only 25c, although made from the latest surveys. For sale at MARINE RECORD offices, Fourth Floor, Western Reserve Building.

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HERE AND THERE.

There is some slight disposition to comment sarcastically upon the defense made by the owners of the steamer George F. Williams as to the cause of the collision between that boat and the St Louis, in which the responsibility for the collision has been connected by all parties directly with the Williams It is claimed that the engines of the Williams became "steam-locked," a term somewhat analogous to "getting on the center," and that in this state she was unable to do anything to check her headway. It has been pointed out that the St. Louis was certainly not to blame, and that it is hardly just that her owners should have to stand the damage to her as inflicted by an "act of God." This latter term has been used unadvisedly, and evidently because of a limited familiarity with legal terms and their definitions. The term "act of God" is applied rather to damage inflicted by the elements or other natural forces which are ordinarily not under the control of man. The proper term for the sort of accident of which we speak is "inevitable accident," although the effect of such finding is the same in both cases. The burden of proof rests upon the defendant where such a defense is made, he being required to show that the accident was inevitable, within the meaning of the law. The definition of "inevitable accident" given by Judge Lurton, in the Circuit Court of Appeals, February 19, 1894, is probably one of the clearest on record. The case in which he hands down the definition was that of the owners of the schooner John Sherman which the steamer Olympia, of the Wilson Transit Co., ran into and completely wrecked in Detroit River, by reason of her wheel rope parting. He said:

"It is not meant by the expression 'inevitable accident' one which it was physically impossible, from the nature of things, for the defendant to have prevented. We only mean that it was an occurrence which could not be avoided by the exercise of that degree of prudence, foresight, care, and caution which the law requires of every one under the circumstances of this particular case."

He also cited the case of the Litania, 19 Fed. 101:

"A ship is not one of those things dangerous in themselves, which entails upon their owners the responsibility of ensuring safety, but the law casts upon the shipowner the duty of using reasonable care to insure that his ship when she sails and while she is under way is in a condition in which she may be navigated with safety to other ships. If she damages another ship in consequence of the giving way or inefficiency of her gear or equipment a prima facie case of negligence arises. The presumption of negligence, however, may be rebutted by showing that the defect was latent, that reasonable care was in fact used to put and keep her in good condition, or that the giving way of the gear was due to stress of weather or other unavoidable cause."

In the Olympia case Judge Lurton considers four possible causes of the parting of the tiller rope, which was shown to have been an apparently sound wire cable. One of these possible causes was the effect of an undue strain caused by the action of the steering engine:

"If it was attributable to a sudden strain (about which we have much doubt) that strain was an effect consequent upon a careful and proper use of the power of the steering engine, and is ascribable to some undefined law of steam known only by capricious manifestations. If due to an inherent and latent defect in the rope (as we think more probable) then the defendants were not in fault, for it was such a defect as was discoverable only by taking the rope to pieces and subjecting it to expert examination. If defendants have shown with respect to each possible cause, that the effect could not have been avoided by the use of care, caution, and skill, then the effect was in law inevitable, and the collision, in legal phraseology, inevitable."

The eccentricities of steam referred to apply equally well in connection with the Williams-St. Louis collision, and while the interpretation seems to bear rather hard on the owners of the St. Louis, yet the above extracts will show that the defense set forth by the owners of the Williams will hold good provided they furnish the requisite amount of proof on their side.

* * *

The race between the Buffalo steam yacht Enquirer and the Cleveland steam yacht Say When, last Thursday, was an interesting event. The yachts contested speed on a thirty-mile course from Fairport up to Cleveland. The two boats were very well matched, and the Enquirer beat her opponent by 28 seconds. The race would very probably have resulted the other way had the water been quieter. But there was a trifle of a sea on which was not enough to affect the Buffalo yacht, but which told very perceptibly upon the slender Say When and more than neutralized the higher power of her machinery. As the goal was neared, the sea was running down rapidly, and when a few miles east of Cleveland the Say When, which was pretty nearly a quarter of a mile astern, seemed to overtake the Buffalo yacht in a very sudden spurt. As soon as she had overhauled the Enquirer, however, she began to fall back steadily again, although she did not allow as much space to get between them. One of the most remarkable features of this race is that while both boats are credited with a speed of 21 to 22 miles per hour, the actual rate of speed on the course was very slightly in excess ot 19 miles per hour.

* * *

The differences in cost of shipbuilding in America and Europe come up in the course of business transactions now and then, and the subject seems never to be an old one. This difference is on its face considerable, amounting often t $50,000 in a ship of moderate dimensions, such say, as the Rosemount, which was lately completed in England for the Montreal Transportation Co., and which arrived on Lake Ontario, in two parts, during the past week. The claim of American shipbuilders that the increased cost is due chiefly to the higher wages paid has often been contested by visitors to English shipyards, who return home with some information as to the scale of wages paid to journeymen in the various departments of the work. These, it is true, show in many cases, that the rates of wages paid are nearly as high as those paid in American yards. But these people often fail to take many points into consideration which mean a great deal in comparing the wages paid in English and American yards. First of these is the apprenticeship system, many points of which might well be followed out in this country, with benefit to both manufacturer and workman. Apprentices in England are bound to their employers, and are required to serve seven years. In some trades the apprentice is required to pay a certain sum of money for the information required, in addition to his services for a part of the time. The apprentice receives little or no wages, and during the latter half of his term of service his work almost equals that of a journeyman. In America apprenticeships run from three to four years, and during the first year, at least, the employer loses money on him. While running off sometimes causes the forfeiture of wages which have heen retained as bail, there are no means by which an employer may compel, by criminal proceedure, an apprentice to return to work and complete his term. On the contrary, the apprentice in England, is for a time the property of his master, and should he run away can be brought back and imprisoned or otherwise punished, if caught. It will be seen that in the shipbuilding trades this item counts for a good deal, especially when boys can, in some lines, run off before completing their apprenticeship, and secure employment as journeymen elsewhere.

* * *

Another element in the difference of cost develops before the ship is laid down in the yard. The English yards have turned out many who are expert draughtsmen, and while their ability to fill more trustworthy positions is not doubted, they are obliged to contend themselves with subordinate positions. At the same time this supply of good material for heads of departments has had the result, in Great Britain, of keeping the salaries of yard superintendents, heads of the designing departments, and chief engineers far below what is paid in this country to men occupying the same positions. Both these points referred to, when reduced to figures show up the difference in cost of building a ship even more quickly than the slight difference that may exist in the pay of a few hundred men.

* * *

But the superiority of workmanship on boats built in America over those put up in Great Britain for the same classes of tonnage is a matter of such general knowledge that it is no longer contested by those who have no reason to be biased. A few years ago a lake building firm offered to build a ship for the West Indian trade for $250,000. The contract was secured by an English yard for $150,000, or just 40 per cent of the price asked on the lakes. The ship made a few trips, but had not been in commission very long until she failed to return from one of her voyages, and was never heard of again, although there had been no exceptionally bad weather, and no reason for the loss of a staunch steel ship, unless by collision, a form of disaster which usually leaves some traces. The difference in price between the American and English yards would not now be so great on a ship of this size, as the introduction of labor-saving machinery and the reduced prices of material, which is now as cheap in America as in England, have given lake builders some advantages which they did not enjoy a few years ago.

* * *

Few people in retired life will be as much missed in Cleveland marine circles as Capt. W. B. Guyles, notice of whose death appears elsewhere in this issue. He was energetic beyond his years in works of religion, benevolence and charity, and he remained closely in touch with the growing commerce of the Great Lakes. His careful upright life was reflected in his clear countenance and in his rugged stature, and while his snowy hair and beard betrayed his four score years, yet he possessed an erectness of carriage and suppleness of body rarely seen in a man of his great age. The writer remembers well a slight mishap that occurred to Capt. Guyles on the occasion of the launch of the passenger steamship North Land. The date was early in January, and the steep hill by which the Globe shipyard is approached on Taylor street was glazed with snow and ice, so that many of the throng chose the rougher walk down the middle of the street rather than trust themselves upon the slippery sidewalk. This caution was not shared by Capt. Guyles, who slipped when half-way down the hill and rolled over once or twice before he could stop his descent. Many of his friends rushed toward him, and all felt certain that he must have broken some bones, or perhaps received injuries that might prove fatal. But Capt. Guyles was on his feet before anybody could reach him, having arisen with the agility of a twelve-year-old boy. He laughingly responded to the solicitous inquiries of those who saw him fall, and after brushing the snow from his clothes, proceeded to the launch, not showing in the least any bad result from his tumble.

Capt. Guyles had been a subscriber to and close reader of THE RECORD from its first issues. When calling at this office a few weeks ago he remarked that he did not expect to live longer than a few months, but made the statement in a calm, matter-of-fact way, realizing his great age, and uttering no note of complaint. He spoke of failing memory in the same conversation, but this defect, if it existed, must have been more patent to him than to others, as he always showed a clear head and a keen memory.

SHIP BUILDING AND REPAIRS.

QUIET TIMES AHEAD.

As the new ships leave the yards prospects of contracts for more new tonnage do not improve, and some of the leading shipyards look forward to a shut-down as soon as present work is out of the way. At the same time there is some talk of construction under special arrangements. Rumor has it, on more or less indifferent grounds, that the Standard Oil Co. contemplates the construction of more oil barges, and that the American Steel Barge Co. will get the work. It is pretty well settled that that company will go ahead with the construction of a big steamer and consort on its own account, but this work will certainly not be rushed.

Mr. Anthony Malone, secretary of the Calvin Co., informs THE RECORD that the keel has been laid at Garden Island, Ont., for another steamer for the Calvin Co.'s timber fleet. She is 200 feet long on the keel and 215 feet on the spar deck, by 37 feet beam and 15 feet depth of hold. She will have a triple-expansion engine, but the size has not been definitely decided upon, though it will be expected to develop about 700 horse-power. Steam will be furnished by two Scotch-type boilers, and the ship will be equipped with steam steering and reversing gear, deck winches, etc. The new boat will have large ports forward, to facilitate the loading and discharging of timber.

Capt. James Davidson has begun work at his yard on two tugs, one of which is building on his own account. He has just contracted with the Frontier Iron Works for the machinery. This is in duplicate, the engines being of the fore-and-aft compound type, with cylinders 15 and 30 inches diameter by 26 inches stroke. The boilers are each to be 8½ by 12 feet, tested to 130 pounds working pressure. The machinery includes independent condensers, feed pumps, etc.

A stock company has been formed at Petoskey by Mr. A. L. Hamill to build two steamers 72 feet long by 16½ feet beam, with a passenger capacity of 200 people, to develop the inland route between the Straits and the summer resorts in Traverse Bay.

E. W. Heath & Co., of Benton Harbor, have taken a contract to build a steam yacht, 67 feet in length, to the order of H. B. Larson, of Manistee.

The new steel steamer Rosemount, built in England for the Montreal Transportation Co., reached Kingston Sunday after coming up the St. Lawrence River in two parts. She will be put together in the government drydock and will then be put into the grain trade.

Mr. Henry Penton, who has been with S. F. Hodge & Co., of Detroit, for some time past, has tendered his resignation and has accepted the position of superintending and designing engineer of the new machinery plant which the Chicago Ship Building Co. is erecting at its yard on the Calumet. Mr. Penton's change will take effect September 1. Mr. Penton is only 31 years of age, but has already earned for himself an unenviable reputation in his profession.

The date of the launch ot the new revenue cutter at the Globe shipyard has not been definitely arranged. The Sir William Siemens will leave this yard on her trial trip next Monday.

A Detroit afternoon paper announced the other day that the owners of the Curry contemplated lengthening her to 500 feet during the coming winter, and building a 450 foot steel consort for her. It looks very much as if somebody was poking fun. The matter of a barge has been considered at various times, and builders figures have been asked for. But the idea is not entertained at present, and will not be taken up unless lake trade shows some very radical changes.

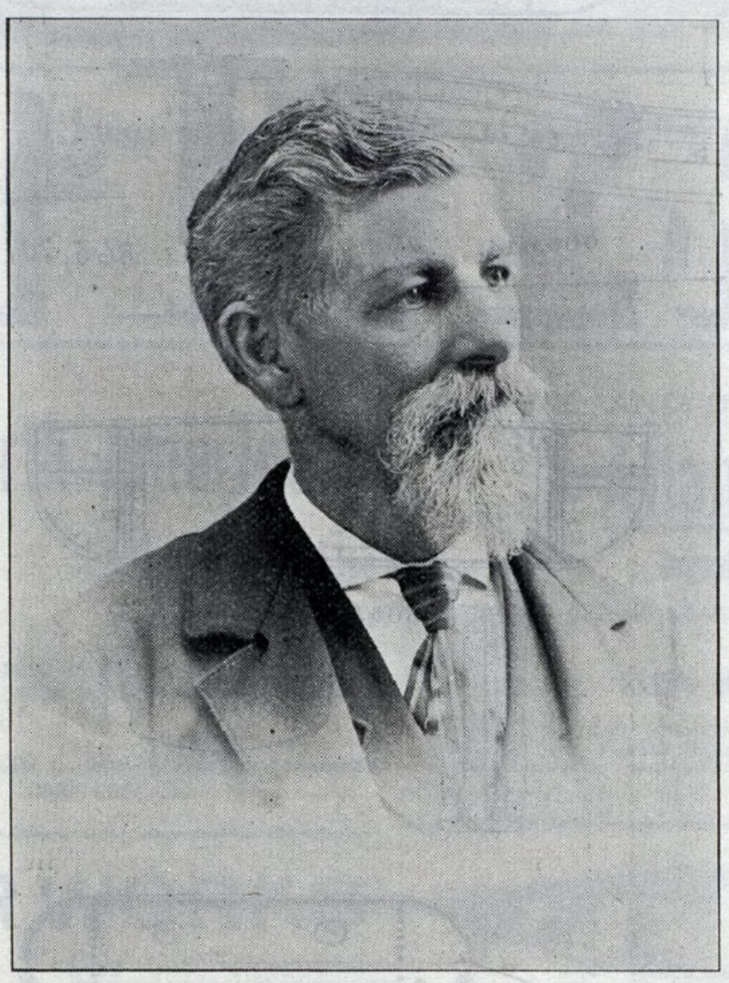
The new steamer John Ericsson was guaranteed to carry 4,000 gross tons of ore and 100 tons of fuel on 14½ feet draft. Her first load out of Ashland was 4,017 tons and 90 tons of fuel, which gives her a load of 8 gross tons in excess of her guaranty.

LAUNCHES OF THE WEEK.

ALEXANDER HOLLEY.—The consort of the whaleback steamer John Ericsson, building for the Bessemer Steamship Co., was launched from the yard of the American Steel Barge Co., West Superior, Wednesday afternoon, the 12th inst. She is 376 feet long between perpendiculars by 46 feet beam and 26 feet depth. She has a 4-foot water bottom, with 1,700 tons ballast capacity, and a height between decks of 9 feet. Her construction is on the bulb-angle principle, and like the other ships of the fleet, she has between-deck beams, but no laid deck in the hold. She has 12 center-line cargo hatches, 14 feet by 7 feet 9 inches, spaced 24 feet between centers. She is fitted with two turrets, one at each end, the after turret affording entrance to dining rooms and officers' quarters, and the forward turret giving entrance to crew's quarters, windlasses, etc., in the forecastle. She has new steam steering gear of the Williamson type, a Hughes ballast pump, complete electric light, etc. She will carry two pole spars for lights. The Holley's capacity, at present practicable draft, will exceed 4,000 tons.

SUPERIOR.—The new tug building by E. W. Heath & Co., of Benton Harbor, Mich., to the order of Capt. W. H. Singer, of Duluth, was launched Thursday afternoon, August 13. She is 80 feet long by 20 feet beam, and 11½ feet depth. Her power consists of a 22 x 24-inch engine, and one boiler 8½ by 14 feet, tested to 150 pounds working pressure, both built by the Montague Iron Works, Montague, Mich. She will be ready for service in a very few weeks.

MAGNA.—At the Chicago Ship Building Co.'s yard, on Saturday morning, August 15, at 10 o'clock, the steel barge Magna was successfully launched. The Magna was built for the Minnesota Steamship Co. Her dimensions are 352 feet keel, 44 feet beam, 26 feet molded depth. She is a counterpart of the other steel schooners of the Minnesota fleet.



THOMAS E. QUAYLE.

GENERAL REPAIR WORK.

CLEVELAND.—The Canadian steamer Bothnia got away Saturday night after receiving strengthening material on her arch. The Saxon followed her in the Cleveland dry-dock to complete her repairs. The Bulgaria was in Wednesday for a new wheel and a few new planks.

CHICAGO.—At Miller Bros.' shipyard the steamer Majestic is in dock for some new bottom plank, a new forefoot, new garboards and a new wheel. The schooner yacht Hawthorne is in for a survey. The schooner H. C. Winslow was in for a new forefoot and some calking; the Lycoming for one new blade on her wheel and repairs to her stern bearing; the steamer Hattie B. Pereue to have leaks stopped and repairs to stern bearing; the Atlanta to have a loose wheel fastened; the City of Duluth for new blades on wheel and repairs to stern bearing; the schooner W. B. Ogden for some new bottom plank and re-calking; the steam yacht Contest for a new wheel; the steamer Geo. F. Williams for a new wheel and repairs to rudder and stern bearing; the steamer Robert Holland for repairs to stern bearing and some calking.

DEATH OF THOMAS E. QUAYLE.

Mr. Thomas E. Quayle, a member of that representative firm of wooden shipbuilders, Thomas Quayle & Sons, and later Thomas Quayle's Sons, passed from life about 1 o'clock last Saturday morning, at his home, No. 95 Bolton avenue, Cleveland, after a few weeks of critical illness, and a long period of ill health.

Mr. Quayle was the eldest son of Mr. Thomas Quayle, whose death occurred a little more than a year ago, and was born in Newburg, now a part of Cleveland, July 26, 1836, in a log house built by his father. Ten years later the family moved down town, and he received his education in the public schools.

Mr. Quayle's connection with the wooden shipbuilding industry of Cleveland lasted over thirty years, although this connection was broken into two periods. In 1858 he went to Europe on the schooner D. C. Pierce, which, with a number of others, was carrying oak staves to English ports. After discharging cargo the Pierce went to the Black Sea, via the Mediterranean, making several trips in the grain trade. In 1861 she went to Havana and got a cargo of sugar. She encountered a storm off Cape Hatteras and ran to Norfolk, Va., to dry-dock. While she lay there Fort Sumter was fired upon. The Pierce was afterwards scuttled, the crew narrowly escaping. Mr. Quayle then took an officer's berth on the United States gunboat Whitehead, which was then in the blockading fleet.

The history of the Quayles' shipyard is too well known to our readers to justify review here. The firm had a reputation for building some of the staunchest ships on the Great Lakes, and most of those turned out are still afloat to give evidence for themselves. The business stopped only when wood had almost entirely given place to steel in large ships.

Mr. Quayle was married to the second daughter of Capt. Charles Gale, the prominent Canadian shipmaster, who has long since retired and is now living in Sombra, Ont. Three children were the result of this union. The son, Edward, died at the age of four years and seven months; the two daughters, Misses Estelle and Mabel, have now just reached young womanhood.

The condition of Mr. Quayle's health required him to relinquish the cares of active business life some six years ago. Of late years he has been a prey to Bright's disease, and has traveled a good deal in search of climate that would prove beneficial. He found Florida best suited to his condition, and spent most of his winters there. On his last trip, however, last winter, he fell ill, in Florida, and his life was in such danger that Mrs. Quayle was summoned to him. He improved somewhat, but has not been well since. He had suffered a great deal for three weeks immediately preceding his death, but had been able to visit the dining room only a little more than a week before he passed away.

Mr. Quayle was a man of sterling honesty in all his dealings, and was of a character to excite admiration and affection, both among his business associates and in the seclusion of his private life. He was adored by his wife and children, who are completely prostrated by his loss.

Mr. Quayle was a high priest in the order of Royal Arch Masons, and about 75 of his brother Masons attended the funeral. The service was conducted by Rev. F. M. Hall, of St. Mark's Episcopal Church. The pallbearers, all relatives of the deceased, were: George L. Quayle, a brother; George H. Quayle, a nephew; Chas. Gill, Paul Gill, L. H. Malone, and H. M. Barrett.

REPAIR NOTES.

A new fore-and-aft compound engine will be built at Manistee, Mich., for the Fannie C. Hart.

The scow schooner Elizabeth had her bottom calked at Sturgeon Bay.

A new compound engine is being put into the Canadian steambarge John Milne at Collingwood.

The Union Steamboat Co. contemplates lengthening the steamers New York and Rochester at Buffalo during the coming winter.

The steamer Mark Hopkins has been towed to Marine City, where she will be thoroughly rebuilt.

The 127 has been getting several new bottom plates at West Superior, the result of striking at Round Island in the St. Mary's River. Her steamer, the Colgate Hoyt, received some slight repairs at the shipyard while waiting.

LAKE INVENTORS.

Three residents of lake cities have been granted patents on four new inventions within the past ten days. One of these is Mr. Bion St. Bernard, of St. Clair, Mich., chief engineer of the steamer Neilson, formerly known as the Washburn. It covers a boat-detaching device (No. 565,701), the claim being for "a boat coupling and detaching device consisting of a socket adapted to be secured to the boat, a coupling bolt carried by the suspension tackle, adapted to enter said socket and having a locking recess, and a rotary locking-pin, journaled transversely on one side with a releasing recess having a rounded front or advancing edge whereby the locking-pin clears the coupling bolt.

"A boat coupling and locking device consisting of a socket adapted to be secured to the boat and provided on one side with a transverse bearing intersecting said socket and having stop shoulders, and a stop adapted to engage the stops of said bearing.

"In a boat coupling and detaching device, the combination with a socket provided at its lower end with an attaching flange for securing the same to the boat, and having on one side a transverse bearing intersecting the cavity of the socket, of a coupling bolt having a locking recess and a cylindrical locking-pin journaled in said bearing and having a releasing recess whereby the locking pin clears the coupling bolt.

"The combination with a pair of coupling and detaching devices arranged at or near opposite ends of the boat and each consisting of a socket secured to the boat, a coupling-bolt carried by the suspension-tackle and provided with a locking recess, the locking-pins of the two devices being arranged lengthwise of the boat and facing each other, of a longitudinal actuating rod connecting said pins, whereby the same are operated simultaneously, and a hand lever secured to said actuating rod."

Patent No. 565,614 was taken out by Wm. D. F. H. Frost, Chicago, and protects a "Device for Preventing Injury to Colliding Vessels," the claim being for the combination with the body of a vessel of a beam closely secured thereon and at a slight distance therefrom, and having on its adjacent surface a longitudinal groove or recess with an elastic piece located within said recess and coextensive with the beam, or fender, as follows: The combination with the body of a vessel, of the beam *b*, provided with a longitudinal groove *c*, on its inner surface and loosely secured longitudinally to the body of the vessel by means of bolts, and at a slight distance therefrom, with a series of elastic cushions *a*, located between the beam and body on the securing bolts, and an elastic piece located in the groove *c* and extending longitudinally with the beam and between the cushions *a*, on the bolts.

Mr. Robert D. Mayo, of Frankfort, Mich., has obtained letters patent on two types of lifeboat. A half interest in each of these he has assigned to Mr. Donald A. McLeod, of Manistee, Mich. Patent No. 565,768 protects the following claim:

"In the construction of life-boats, a hull having a keel, the said hull being provided at each end with a water-tight compartment, interior bulkheads between which the living compartment is located, a valve-controlled air duct communicating with the living compartment and the space between the air compartment and the bulkheads, which space is in communication with the outside atmosphere.

"A life-boat having five compartments formed by two parallel bulkheads at each end of the boat, each pair of bulkheads forming a separate compartment between each pair of bulkheads, the spaces outward from the respective pairs of bulkheads forming air-tight compartments.

"In a life-boat, air supply tubes in communication with the living compartment, and in communication with the exterior of the boat, a water reservoir connected with each tube, and valves controlling air outlets located near the water reservoirs, and with gravity valves located at the outlets of said supply tubes.

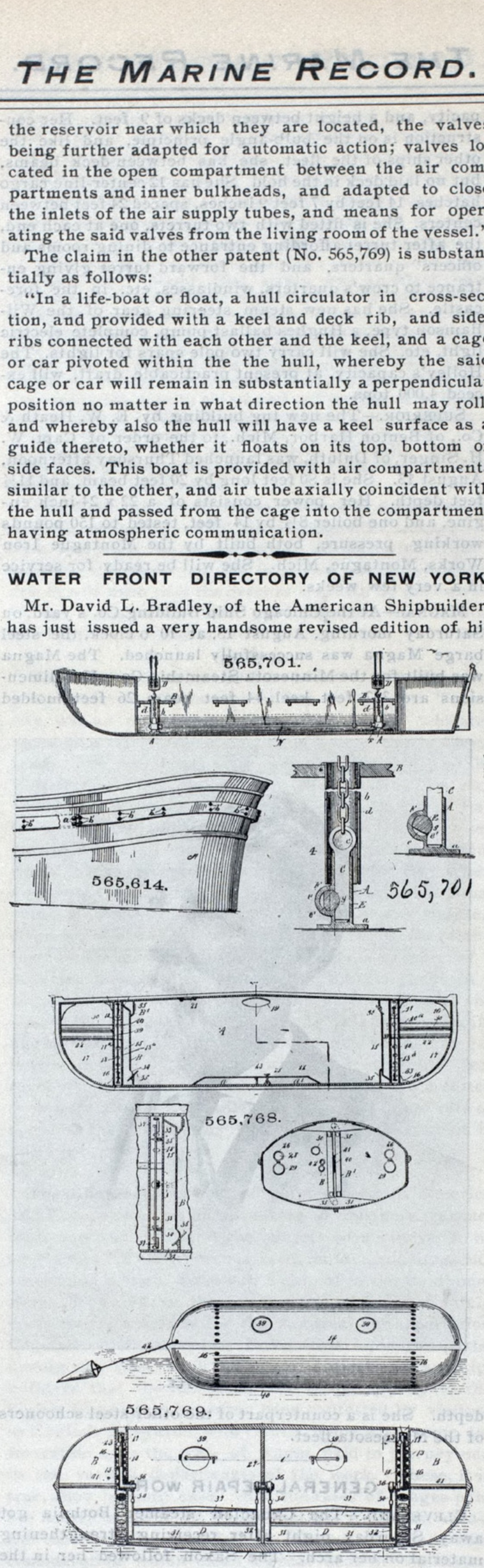
"A life-boat having openings in its hull between its air compartments and inner bulkheads, air-supply tubes in communication at one end with the said apertured compartments, the opposite ends of the tubes being in communication with the living compartment of the vessel and provided with a reservoir for water, an outlet for air adjacent to the reservoir, and valves located at the said outlets and adapted to form a partial cover for the reservoir near which they are located, the valves being further adapted for automatic action; valves located in the open compartment between the air compartments and inner bulkheads, and adapted to close the inlets of the air supply tubes, and means for operating the said valves from the living room of the vessel."

The claim in the other patent (No. 565,769) is substantially as follows:

"In a life-boat or float, a hull circulator in cross-section, and provided with a keel and deck rib, and side-ribs connected with each other and the keel, and a cage or car pivoted within the the hull, whereby the said cage or car will remain in substantially a perpendicular position no matter in what direction the hull may roll, and whereby also the hull will have a keel surface as a guide thereto, whether it floats on its top, bottom or side faces. This boat is provided with air compartments similar to the other, and air tube axially coincident with the hull and passed from the cage into the compartment having atmospheric communication.

WATER FRONT DIRECTORY OF NEW YORK.

Mr. David L. Bradley, of the American Shipbuilder, has just issued a very handsome revised edition of his



Water Front Directory of New York, Brooklyn, and Jersey City, arranged in a most convenient manner. Opposite each directory page is a diagram of that section showing the piers and streets leading to them. These include a two page diagram of Harlem River its entire length, and separate diagrams of the Atlantic Basin, Erie Basin, Navy Yard, etc. Besides being a complete directory up to June, 1896, it contains a brief history of the harbor and charts of the same, including a diagram of the corrected diagram of the boundary line between New York and New Jersey. The size of the book is 7½ by 10½ inches and it contains about 70 pages. Price, in flexible cover, $1; heavy cloth cover, suitable for desk, $2.

Car ferries Nos. 3 and 4, of the W. & M. Line, have been laid up at Menominee, which indicates that efforts to charter them to run on Lake Erie have proved fruitless.

MARINE ENGINEERS' BENEFICIAL ASSOCIATION.

J. H. Galwey, past president, Detroit, Mich.; George Uhler, president, Philadelphia; J. J. Leary, vice-president, Oakland, Cal.; Thomas F. Dowd, secretary, No. 17 S. Jefferson St., Chicago; J. J. Williams, treasurer, New Orleans.

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No. 27.—Bay City, meets Fridays, in K. of P. hall. J. A. Brannan, secretary, No. 409 Jenny street, West Bay City
No. 37.—Toledo, meet Saturdays, in I. O. O. F. block. E. D. Lock, secretary, No. 1638 Broadway.
No. 39.—Erie, meets Mondays or Fridays. F. J. Tracy, secretary, No. 521 West Third street.
No. 43.—Port Huron, meets Mondays, No. 405 East Water street. George H. Bowen, secretary, No. 2107 Seventh street.
No. 47.—Sault Ste Marie. Secretary, Peter Kelly, Box 31.
No. 48.—Sandusky, meets Thursdays, Columbia avenue and Water street. John Irving, secretary, No. 926 Hancock street.
No. 51.—Muskegon, meets Tuesdays, Scandinavian Hall. J. Cummings, secretary, Room 1, Huckley Bank Building.
No. 53.—Marine City, meets Saturdays. H. Stone, secretary.
No. 54.—Charlevoix, meets first and third Saturdays of month, K. of L. Hall. O. S. Washburn, secretary.
No. 55 —Cheboygan, Mich. C. Adams, secretary.
No. 67.—Saugatuck, meets Wednesdays, Nei's Hall. G. Harvey, secretary.
No. 68.—Chicago, meets Tuesdays, Market and Lake streets. A. C. Harding, secretary, No. 3155 Rhodes avenue,
No. 72.—Oswego, meets alternate Mondays, No. 167 Water street. T. Navagh, secretary, No. 40 Lake street.
No. 73.—Green Bay, meets Saturdays. F. Spencer, secretary, No. 904 Crooks street.
No. 75.—Alexandria Bay, meets Fridays, Wescott Block. A. J. Thompson, secretary.
No. 76.—Grand Haven, meets first Thursday each month at A. O. U. Hall (German). Orson Vanderhoff secretary.
No. 77.—Manitowoc. John A. Flint, secretary, No. 818 Jay street.
No. 78.—Duluth. T. B. Barrows, secretary, No. 1128 East Third street.
No. 85.—Alpena. Arthur J. Irwin, secretary, No. 427 Washington street.
No. 86.—Menominee. Alfred A. Larson, secretary, No. 2713 Broadway.
No. 87.—Detroit. George B. Milne, secretary, No. 726 Fourth avenue.
No. 88—Sturgeon Bay. Charles O. Chapman, secretary.
No. 89.—Ogdensburg. C. E. Davidson, secretary, No. 29 Congress street.
No. 90.—Pentwater, Mich. W. Houghtby, secretary.
No. 91.—Ashtabula. Martin Joyce, secretary, No. 8 Spruce street.
No. 92.—Saginaw. Harry E. McArthur, secretary, No. 17 McCormick Building, East Saginaw.
No. 95.—Port Clinton, O. G. P. Semon, secretary.
No. 96.—Houghton, Mich. Joseph Greenleaf, secretary.

Edward D. Hoban has been appointed third assistant keeper of Spectacle Reef Light, vice William A. Burke.

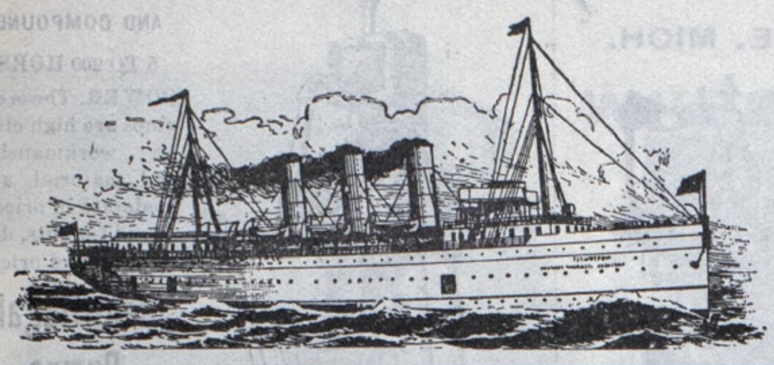
WANTED.

Competent master for a 600 M. lumber capacity steam-barge, towing consorts on all the lakes. State experience, reference and salary expected. Address, Box 80, MARINE RECORD. 34-35

PROPOSALS.

U. S. ENGINEER OFFICE, 1637 Indiana Ave., Chicago, Ill., Aug. 3, 1896. Sealed proposals for the following river and harbor works will be received here until 12 M. August 24, 1896, and then publicly opened: Dredging in Calumet River, Ill. Dredging in Calumet Harbor, Ill. Pier extension, Calumet Harbor, Ill. Information furnished on application. W. L. MARSHALL, Maj. Eng'rs. 32-33

GRAHAM'S



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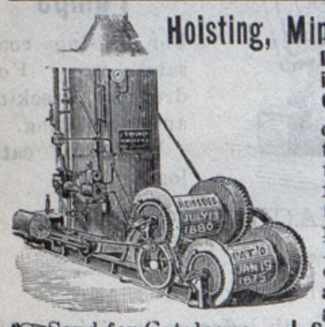

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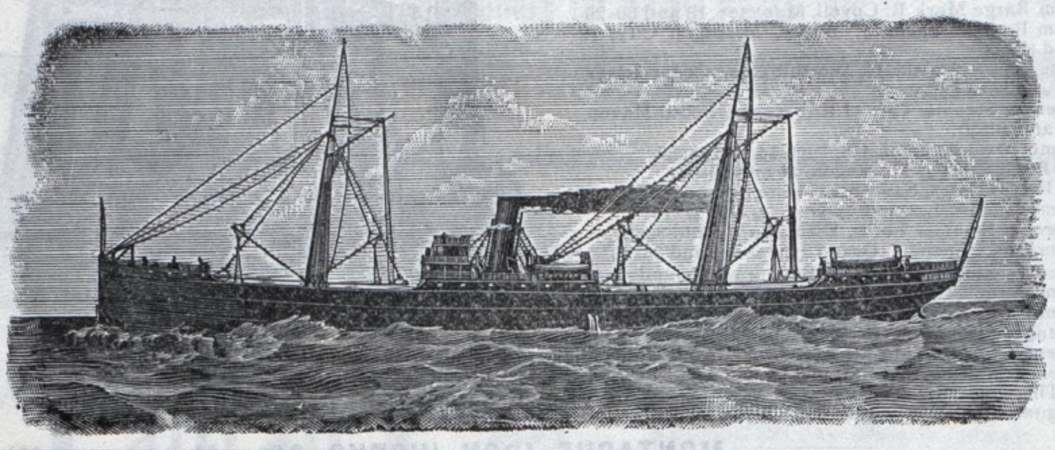

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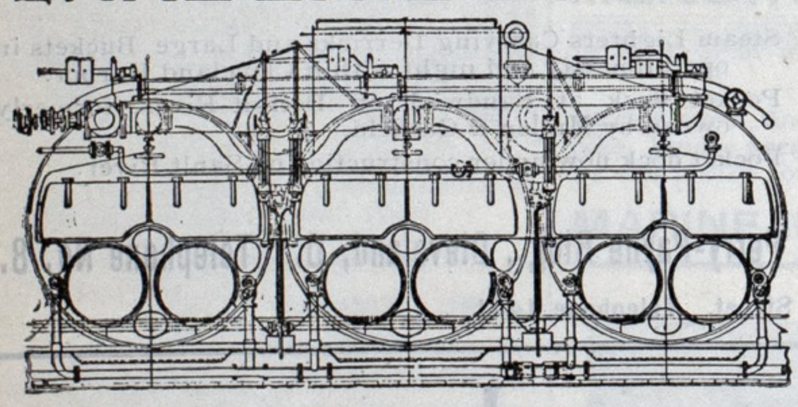

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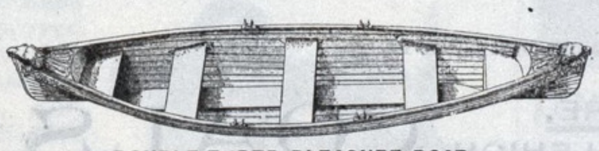
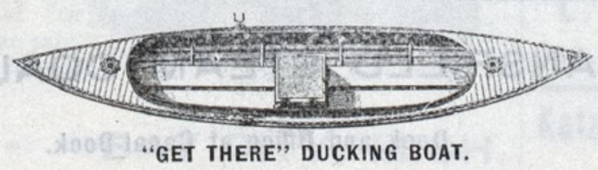


DOUBLE-ENDER PLEASURE BOAT.



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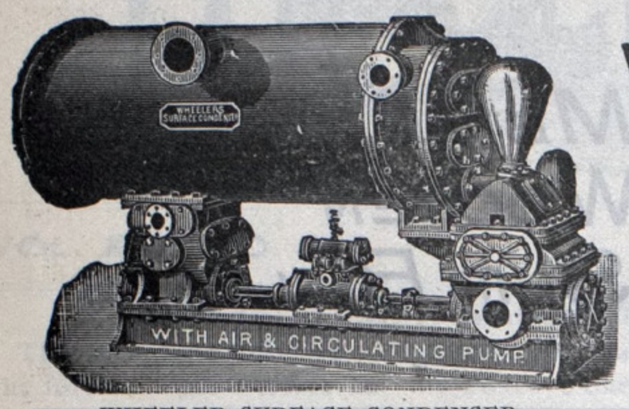

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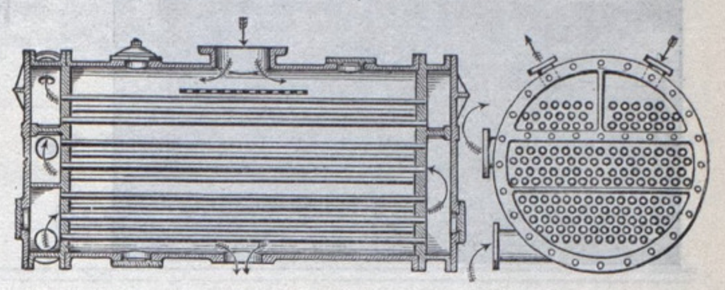

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The undersigned has been appointed Receiver for the Vessel Owners' Towing Company, of Chicago, by the Circuit Court of Cook County, Illinois.

THE COMPANY OWNS THE FOLLOWING TUGS:

NAME.	Boiler .. Inches.	Engine..	Over all	Keel....	Beam...	Depth ..
A. G. Van Schaick..	15x78	22x22	82	67.5	14.6	8.1
Protection.....	15x79	22x20	90	77.4	15.8	8.9
Calumet.....	14x75	22x22	79	64.2	17.8	8.6
D. T. Helm	14x72	(2) 17x17	83	68	18	9.3
E. P. Ferry	12x72	20x20	80	66.8	15	7.6
Black Ball No. 2....	12x72	18x20	73	58.6	15.5	8.4
A. A. Carpenter ...	12x72	18x20	75	60	15.6	8.6
Thomas Hood.....	13x72	18x20	71	59.5	15.6	8.6
J. V. Taylor.....	13x72	18x21	75	60.8	15.6	8.6
Satisfaction	12x72	18x20	73	58	15	8
M. Shields.....	12x66	18x20	76	62	14.6	8.2
Rebel.....	10, 6 x 60	16x18	66	54	14.6	7.8

I will be pleased to receive offers at once for any or all of above tugs.

Yours very respectfully,

J. L. HIGGIE, JR.,
Receiver Vessel Owners' Towing Co.

The Nickel Plate Road sells excursion tickets to the G. A. R. Encampment at St. Paul, August 30, 31, and September 1.
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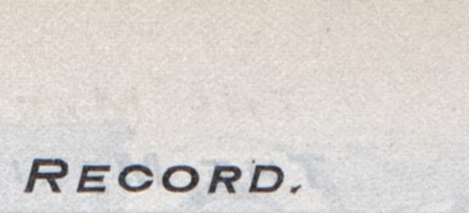

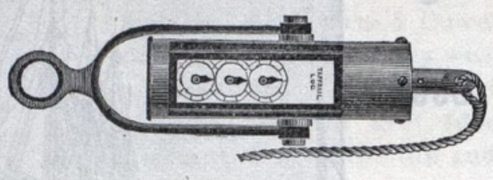

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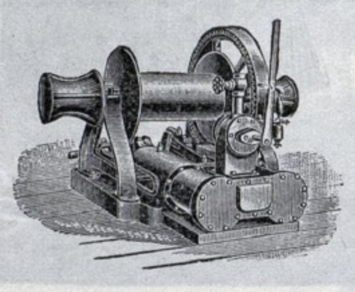

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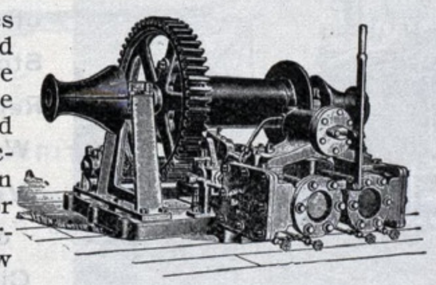

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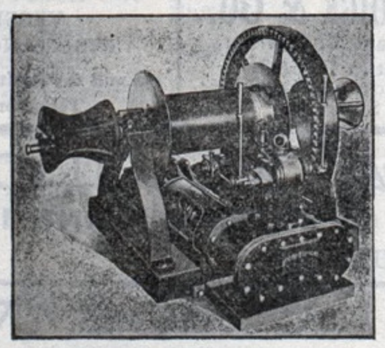

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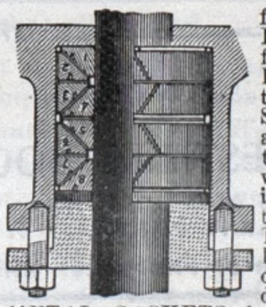

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